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ENVIRON**FACSIMILE TRANSMITTAL LETTER**
17 pages (including transmittal letter)

December 11, 1996

Account # 01-4598A

TO: Mr. Ed Hanlon
United States Environmental Protection Agency, Region V
Facsimile Transmission: (312) 886-4071

FROM: Doug Errett (703) 516-2384 direct dial telephone
ENVIRON Corporation (703) 516-2345 facsimile transmissions

SUBJECT: Revised Table and Figure
Dutch Boy Site

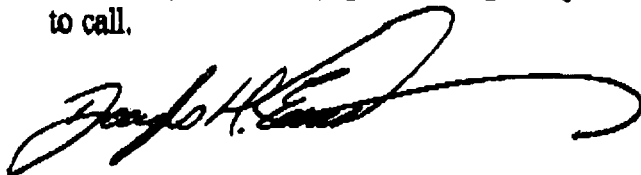
MESSAGE: PLEASE DELIVER IMMEDIATELY.

Mr. Hanlon:

Attached are revised versions of the timeline (Table 1 from the Removal Action Work Plan) and figure (Figure III-1 from the SAP) that you requested.

We are currently finalizing the revised SAP, including copies of the Sanborn fire insurance maps you requested, and will send it (via FedEx) to all recipients tomorrow.

If you have any questions regarding the attached materials, please don't hesitate to call.



Douglas H. Errett
Associate Engineer

TABLE III-1
SUMMARY OF SAMPLING PROGRAM
DUTCH BOY SITE
CHICAGO, ILLINOIS

Sampling Location	Number of Samples	Comments
On-Site; Soil	288 (Assuming 3 samples per location where the boring is extended to the base of the fill and 9 samples per location where the boring is extended to 5 feet below the base of the fill. Includes debris samples and samples to be sieved. Actual number of samples to be analyzed will be determined according to the protocol outlined)	35 soil borings will be extended to the base of the fill material. 19 soil borings will be extended to 5 feet below the base of the fill material. Samples will be collected from the upper 0-2 inch interval below ground surface at all locations. Additional samples will be collected at one foot vertical intervals in those locations where the boring is extended below the base of the fill. Additional samples may be collected from other boring locations depending on initial results. All samples will be analyzed for total lead. Certain samples will also be analyzed for VOCs and petroleum hydrocarbons (based on screening results), or asbestos. In addition, one sediment sample will be collected from the southeast corner of the sub-basement of the former mill building, and one soil sample will be collected from beneath the sub-basement of the former mill building. A subset of samples will also be analyzed for TCLP lead depending on the results of the total lead analyses. Ten samples, selected at random, will be sieved and the fine and total fractions analyzed for total lead.
On-Site; Debris	4	Samples will be collected from the debris pile on the former loading dock in the southwestern part of the Site. Samples will be analyzed for TCLP lead and asbestos.
Off-Site; Parkways	37	Samples will be collected along the parkways in the vicinity of the Site from the 0-2 inch interval and analyzed for total lead. Additional samples (3 per location) will be collected at three locations where the soil boring will be extended to below the base of the fill material.

TABLE III-1
SUMMARY OF SAMPLING PROGRAM
DUTCH BOY SITE
CHICAGO, ILLINOIS

Sampling Location	Number of Samples	Comments
Off-Site; Adjacent Properties	80 (Includes samples to be sieved)	Samples will be collected on 100-foot radii extending out from the Site in each of eight transects. Additional samples will be collected on 400-foot radii in each of four transects. Samples will be collected from the 0-2 inch interval and analyzed for total lead. An additional four samples will be collected at two locations where the soil boring will be extended to the base of the fill material. Ten samples, selected at random, will be sieved and the fine and total fractions analyzed for total lead.
Note: All sample numbers are approximate.		

1. On-Site

The SAP has been designed to investigate various areas of the site depending on their respective physical condition (e.g., presence or absence of pavement) and operating history. Specifically, the Site has been divided into two zones. Zone 1 represents that area of the Site that is presently not under pavement. Zone 2 represents those areas of the site that are presently under some type of paved surface (e.g., concrete pavement, loading docks, etc.).

Sample locations for each of the zones were developed by overlaying sampling grids and then selecting sampling locations within the specified zone that fall at the nodes of the grid. For Zone 1, a grid with sampling nodes on 40-foot centers was chosen as being sufficiently representative for the purposes of this SAP. Because the remaining areas of the Site comprising Zone 2 have been under pavement or concrete for much of the Site's operating life, a grid with nodes on 100-foot centers was chosen for these areas. Use of these sampling grids results in approximately 32 and 22 sample locations designated for Zones 1 and 2, respectively. Proposed sampling locations for each of the zones are shown in Figure III-1.

For all on-site soil sampling locations, ENVIRON proposes to install soil borings via a standard coring device to the base of the fill material overlying the native soils of the

Site. Soil cores will be collected from one-foot vertical intervals until the base of the fill material is encountered. A one-foot depth sampling increment was selected based on USEPA (1995) recommendations for silty/sandy soils (silt and loams, 1.0-2.5-foot intervals; sands, 1.0-5-foot intervals). Each core will be collected in an acetate liner, sealed in the field, and sent to the laboratory for potential analysis. Initially, a portion of each soil boring, representing the upper two-inch vertical interval below ground surface, will be homogenized in the laboratory and analyzed for total lead. The remaining portion of the soil core (representing the 2-12 inch depth interval below ground surface) will be preserved for potential future analysis. In cases where the 0-2 inch homogenized sample exceeds 1,400 ppm total lead, a homogenized sample from the underlying interval (i.e., 2-12 inches) will be analyzed. If the 2-12 inch interval is also above 1,400 ppm total lead, a homogenized sample of the underlying one foot vertical interval will then be analyzed. This procedure will be repeated until a vertical interval containing lead at less than the 1,400 ppm cleanup level is encountered at each boring location. As required by USEPA, ten on-site soil samples, selected at random, will be sieved (250 um) and both the fine and total fractions analyzed for total lead.

To investigate the native material underlying the fill, soil borings will be extended to a depth of five feet below the fill base at nineteen locations (eighteen borings along and near the loading dock area between the debris pile and 120th Street, and one boring underneath the concrete paving nearest the loading dock; see Figure III-1). These locations were chosen based on previous sampling results that showed lead contamination at depth in certain areas near the loading dock. Soil samples at each of the nineteen locations will be collected from each one foot vertical interval, beginning at the one foot below surface depth, and extending into the native material to the total depth of the boring. The base of the fill is at a depth of 2-4 feet at most locations. Each soil sample will be analyzed for total lead.

Based on previous sampling that has been conducted at the Site, the presence of significant concentrations of organic compounds appears to be limited only to certain areas within Zone 1. Therefore, all Zone 1 soil cores will be screened in the laboratory using a head space solid phase microextraction (SPME) technique. A detailed description of the SPME screening procedure is provided in Section III.D.2 below. A grab sample will be collected from the one-foot vertical interval of each boring location that exhibits the highest SPME reading and analyzed for VOCs and Petroleum Hydrocarbons as specified in Section III.E. In addition, all soil cores (Zone 1 and Zone 2) will be inspected

by the laboratory for any (visual or olfactory) evidence of contamination. A grab sample will be collected from any core interval exhibiting such evidence of contamination and will be analyzed for VOCs and Petroleum Hydrocarbons as specified in Section III.E.

To confirm (and update) the results obtained previously by Toxcon, ENVIRON proposes to conduct asbestos analyses on ten Zone 1 samples collected from the 0-1 foot depth interval, between the loading docks (where asbestos was previously detected). In addition, a small area within the loading dock in the southwest corner of the Site (Figure III-1) contains construction debris from the demolition of the Mill Building earlier this year. To characterize the nature of this material, four representative samples of this material will be collected and analyzed for TCLP lead and asbestos. TCLP lead and asbestos analyses will be conducted according to the procedure described in Section III.D.2 below.

One sediment sample will be collected from the southeast corner of the sub-basement of the former mill building, where accumulated sediment has been reported during previous site visits. In addition, one soil core will be collected from beneath the sub-basement of the former mill building and analyzed for lead.

Assuming an average of three samples per boring location where the boring is extended to the base of the fill material, and nine samples where the boring is extended to five feet below the base of the fill material, a total of approximately 288 samples will be analyzed in this sampling component. The actual number of samples to be analyzed will be determined according to the protocol outlined above. In addition, anticipated sampling locations may change if significant physical impediments (e.g., underground utilities or tanks, obstructions to the drill rig, etc.) are observed during the implementation of the sampling program.

2. Off-Site

a) Adjacent Properties

To characterize off-Site soil quality on properties adjacent to the Site, ENVIRON proposes to establish a stratified radial sampling scheme as shown in Figure III-2. Adjacent properties will be targeted for sampling by extending radii, at 100-foot intervals from the Site within a 45 degree angle in each of eight compass directions. A single soil sample will be collected, where feasible, within each area defined by the 45 degree angle and the 100-foot radii interval. In addition, a total of eight soil samples will be collected from two outer rings spaced

on 400-foot intervals. The soil samples from these outer rings will be collected in transects located in the north, south, east, and west compass directions.

For all sampling locations, ENVIRON proposes to install soil borings to the 0-1 foot depth interval via a stainless-steel hand auger. The top 0-2 inch interval of the core will be placed into a glass vial, sealed in the field, and sent to the laboratory for analysis. The sample will be homogenized in the laboratory and analyzed for total lead.

At two sample locations (the locations in the northeast and due south transects closest to the Site, Figure III-2), the soil boring will be extended to the base of the fill material. Soil cores from each one foot vertical interval (beginning at the one foot depth below ground surface) will be collected in an acetate liner, sealed in the field, and sent to the laboratory for analysis. Composite samples from the following three vertical intervals will be collected by the laboratory and analyzed for total lead: 1) 0-2 inches below ground surface, 2) 1-2 feet below ground surface, and 3) the one foot depth interval across the native soil/fill interface. The remaining soil cores will be stored at the laboratory for potential future analysis.

To ensure that the effects of airborne deposition are adequately accounted for, samples will only be collected from unpaved areas. In some cases sampling may not be feasible due to physical constraints (e.g., pavement, structures, etc.). In such cases, a determination will be made in the field regarding appropriate alternative sampling locations. It is anticipated that 7-8 samples will be collected from each transect on the 100-foot spacing intervals. An additional two samples will be collected in the north, south, east, and west transects from the outer 400-foot spacing intervals. At the request of USEPA, ten off-site soil samples, selected at random, will be sieved (250 um) and both the fine and total fractions analyzed for total lead. A total of approximately 80 samples will be analyzed in this sampling component.

b) Parkways

For the parkways in the vicinity of the Site, ENVIRON proposes to collect surface soil samples, via stainless-steel hand auger, on 100-foot intervals. For the parkways immediately adjacent to the Site, the samples will be staggered such that both sides of the roadway will be sampled as shown in Figure III-3. For the reach of the parkways not immediately adjacent to the Site, samples will be collected at

100-foot intervals along only one side of the road.

For all parkway sampling locations, ENVIRON proposes to install soil borings to the 0-1 foot depth interval via a stainless-steel hand auger. The top 0-2 inch interval of the core will be placed into a glass vial, sealed in the field, and sent to the laboratory for analysis. The sample will be homogenized in the laboratory and analyzed for total lead.

At three locations (see Figure III-3), the soil borings will be extended to the base of the fill material. At these locations, soil cores from each one foot vertical interval (beginning at the one foot depth below ground surface) will be collected in an acetate liner, sealed in the field, and sent to the laboratory for potential analysis. Composite samples from the following three vertical intervals in each of these parkway locations will be collected by the laboratory and analyzed for total lead: 1) 0-2 inches below ground surface, 2) 1-2 feet below ground surface, and 3) the one foot depth interval across the native soil/fill interface. The remaining soil cores will be stored at the laboratory for potential future analysis. A total of 37 samples will be collected along the parkways and analyzed for total lead.

C. Sample Identification

Each sample collected for testing will be assigned a unique sample identification (ID) code. The sample ID will facilitate data management by referencing the analytical laboratory, matrix, site, date, and location. All samples will be labeled with the sample ID code and other field information.

1. Sample Identification Code

To ensure correct identification of all samples collected, a unique alphanumeric code will be assigned to each sample.

The 15-character sample ID scheme to be used is summarized below. The hyphens included in this sample ID are provided for clarity and will be eliminated for database management.

Sample ID: ndd-SS-MMDDYY-AAAA

Where:

n = Laboratory designator

dd = Depth Interval:

01 = 0-1 foot depth interval

12 = 1-2 foot depth interval

SS = Site:

DB = Dutch Boy Site

OA = Off-Site; adjacent property

OP = Off-Site; parkways

BG = Background

MMDDYY = Date:

Month, day, and year in number format (e.g., 062196 = June 21, 1996).

AAAA = Location:

QA/QC samples (i.e., duplicate samples, field equipment rinsate blanks, and trip blanks) will be assigned fictitious numbers starting with 99 (e.g., 9901, 9902, etc.).

2. Sample Labels

The sample labels will be placed on the sample containers so as not to obscure any data on the containers. Sample information will be printed on the labels in a legible manner using waterproof ink. The label will contain sufficient information so the sample can be identified on the sampling information form or sample collection log. Sample labels will contain the following information:

- The project name and number (i.e., Dutch Boy Site, 01-4598A).
- A unique sample identification (see Section IV.A.1.).
- The date and time.
- Designation of the sample as a composite, if appropriate.
- Identification of preservatives used, if any.
- A list of analytical tests to be performed on the sample.
- Other necessary remarks.
- Name of the sampler.

D. Sample Collection and Handling

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This section describes the equipment and procedures to be used during the field portions of the investigation.

1. Sample Collection

All samples will be collected using a standard coring device. For those soil borings installed to depths below the 0-1 foot interval below ground surface (all on-site locations and a portion of the off-site locations), a direct-push method (e.g., Geoprobe) will be used for installation of the borehole and sample collection. For those soil borings to be installed to the 0-1 foot depth interval (off-site locations only), a stainless-steel hand-auger will be used for installation of the borehole and sample collection where feasible. For Zone 2 on-site sample locations, a power concrete coring device will be used to install a borehole through the concrete/pavement, through which the coring device can be inserted for soil sample collection.

For soil cores collected via the direct push method, each one-foot core will be collected in an acetate liner, sealed in the field, and sent to the laboratory for analysis (or retention for potential future analysis). For soil cores collected via hand-auger (0-1 foot depth interval only), the top 0-2 inch interval will be placed into a glass vial, sealed in the field, and sent to the laboratory for analysis. The sample will then be homogenized in the laboratory and analyzed for total lead.

Samples will be delivered to a certified laboratory within 48 hours of collection. Detailed chain-of-custody and other quality assurance procedures, as specified in the Quality Assurance Project Plan (QAPjP; Appendix 1) will be followed at all times during sample collection. Analyses will then be conducted as described in Section III.E.

Depending on the results of the total metals analyses generated in this investigation, a subset of these samples will be selected for TCLP lead analysis in order to determine whether soils at the Site exhibit hazardous waste characteristics. Specifically, samples containing different levels of lead will be submitted for TCLP analysis in order to establish a relationship between TCLP level and soil lead concentrations.

Analyses for VOCs and Petroleum Hydrocarbons will be specified for the vertical interval of each boring location exhibiting the highest SPME reading (see Section D.2 below) or for any interval exhibiting any visual or olfactory evidence of contamination.

Debris samples will be collected by identifying various debris types (e.g., concrete, transite pipe, wallboard, etc.) and taking a representative sample. The laboratory will be responsible for all sample preparation that may be required to conduct the appropriate analyses.

2. Organic Constituent Screening Procedure

All Zone 1 soil cores collected from beneath the 0-1 foot depth interval will be screened for organic constituents in the laboratory using headspace solid phase microextraction and gas chromatography with flame ionization detection. The screening analysis will be performed by slitting each (one-foot) soil core down the middle. One half of the core (referred to as the "retained sample") will be retained by the laboratory for potential further analyses. The remaining half of the core (referred to as the "original sample") will be examined for any visual or olfactory evidence of contamination. A grab sample will be collected from any interval exhibiting such evidence and will be analyzed for VOCs and Petroleum Hydrocarbons as specified in Section III.E below. For those intervals not exhibiting visual or olfactory evidence of contamination, a representative grab sample from the interior portion of the original sample (i.e., approximately six-inches from either end) will be collected and analyzed using the SPME screening procedure. A standard operating procedure for this screening technique is provided in the QAPJP (Appendix 1). A grab sample from the one-foot vertical interval from each boring location that exhibits the highest SPME reading will be collected and analyzed for VOCs and Petroleum Hydrocarbons.

3. Decontamination Procedure

Prior to and between sample collection, all sampling equipment (e.g., coring devices) will be thoroughly cleaned using a high pressure steam cleaner and/or rinsed with tap water, rinsed with non-phosphate detergent solution, rinsed with tap water to remove detergent, rinsed with distilled/deionized water, and air dried.

4. Waste Management

All water used during decontamination will be stored in drums and labeled appropriately. The drums will be placed in an on-site waste storage area pending analytical test results. Similarly, all waste soils generated during the sampling program will be drummed and stored on-Site pending analytical results. The decontamination water and waste soils will then be disposed of appropriately.

E. Laboratory Test Methods

Chemical analyses will be performed by a qualified laboratory for the analytes specified below. Total lead analyses will be performed by the Atomic Absorption, Furnace technique (SW-846, 3050/7421). Volatile organic compound analysis will be performed by the Gas

Chromatography/Mass Spectrometry technique (SW-846, 8260). Petroleum Hydrocarbons will be analyzed (diesel and gasoline ranges) by the Gas Chromatography/Flame Ionization Detection technique (SW-846, 8015). Asbestos sampling will be conducted by Polarized Light Microscopy (USEPA Method 600/M4-E2-020). TCLP lead analysis will be conducted in accordance with the procedure specified in SW-846, 1311. A detailed discussion of quality assurance/quality control procedures to be followed by field and laboratory personnel is provided in the QAPjP (Appendix 1).

F. Data Reporting and Statistical Evaluation

Data generated during the site investigation will be appropriately identified, validated and summarized in the final report. ENVIRON has developed a data storage and information system to facilitate data for tracking and data calculations, and for the transfer of data to various forms and reports. Quality control procedures have been designed to eliminate errors during these steps.

Appropriate documents will be prepared and distributed to summarize the field activities performed and the results of all data collected during the site investigation. These reports, to the extent possible, will include:

- Presentation of results;
- Summaries of field data from field measurements such as water levels and soil moisture and water-quality parameters; and
- Field location of sampling points.

In addition, USEPA will be provided with copies of the following documents for each sampling event:

- All field measurements, data logbooks, and notebooks;
- Laboratory reports; and
- Data validation reports summarizing the validation process used and specific comments pertaining to a sample or group of samples.

An inventory of all documents contained in the project file will be developed. This document inventory shall contain the following information:

- Document date;

- Author(s), including title and affiliation;
- Recipient(s), including title and affiliation;
- Title of document;
- Summary of content; and
- Number of pages.

All documents supplied to USEPA shall include a cover sheet containing the following information:

- Site name (Dutch Boy Superfund Site);
- Date; and
- Authors.

Upon completion of the data validation and assessment of the data with respect to precision, accuracy, and completeness, ENVIRON will develop QA/QC reports for each analytical data package. This report, along with a field activities documentation report, will be prepared to summarize the results obtained for all samples collected during the investigation.

Statistical analysis that may be conducted on-Site and off-Site data will depend on the results and the proposed use of the data. Appropriate statistical analyses will be employed to evaluate spatial trends.

It should be recognized that further sampling may be required depending on the results of this sampling event to fulfill the objectives of the program.

IV. REFERENCES

- Myer, J.H., J.J. Konz, and G.K. Whitmyre. 1989. *Soil Adherence to Human Skin*, Bulletin of Environmental Contamination and Toxicology, v. 43, 814-820.
- Ecology & Environment, Inc. 1995. *Site Assessment Report for International Harvester/Dutch Boy Site*, v.1., August.
- Envirodyne Engineers, Inc. 1986. *Immediate Removal Project for Dutch Boy Paint Co./NL White Lead Plant, Chicago, Illinois*, July
- Harza Environmental Services, Inc. 1994. *Limited Soil Investigation and Paint Sampling, Former Dutch Boy Paint Site, Chicago, Illinois*, June
- Kabata-Pendias, A. and H. Pendias. 1984. *Trace Elements in Soils and Plants*. CRC Press, Boca Raton, Florida.
- Kissel, J.C., K.Y. Richter, and R.A. Fenske. *Investigation of Factors Affecting Soil Adherence to Skin Using a Hand-Press Technique*, Submitted for publication to Bulletin of Environmental Contamination and Toxicology.
- Professional Service Industries, Inc. 1987. *Subsurface Exploration, 120th Street and Peoria Avenue*, July.
- Quee Hee, S.S., et. al. 1985. *Evolution of Efficient Methods to Sample Lead Sources, Such as House Dust and Hand Dust, in the Homes of Children*, Environmental Research, v.38, 77-95.
- Science Applications International Corporation (SAIC). 1996. *Technical Review and Comments on the Potential Release of Lead From the Manufacturing Processes Conducted at the Dutch Boy Superfund Site*, February
- Simon Hydro-Search, Inc. 1993. *Environmental Assessment Report, 120th and Peoria Streets*,

Illinois, November.

Engineering Company. 1987. *Analytical Results, Phase III - Site Investigation, Dutch Boy Plant Site*, September.

Engineering Company. 1988. *Analytical Results, Phase III - Supplemental Site Investigation, Dutch Boy Plant*, August.

EPA. 1986. *Draft Air Toxics Emission Inventory for the Southeast Chicago Area*. Air and Radiation Branch, Region V, December.

EPA. 1992. *Options for Addressing High Background Levels of Hazardous Substances at RCRA Sites*, Draft Issue Paper, Office of Emergency and Remedial Response, Washington, June.

EPA. 1995. *Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Waste Sites*. EPA/540/5-96/500, Office of Solid Waste and Emergency Response, December.

TABLE 1
Schedule of Events
Dutch Boy Site
Chicago, Illinois

Task/Event	Date
USEPA Approves Revised SAP	12/11/96
Implementation of SAP (On-Site Sampling)	12/16 - 12/21/96 ¹
Submit Monthly Progress Report	12/31/96
Implementation of SAP (Off-Site Sampling)	1/6 - 1/29/97 ¹
Submit Monthly Progress Report	1/31/97
Complete Implementation of Revised SAP and Submit Report on Extent of Contamination (EOC) (Ten Weeks from Receipt of SAP Approval)	2/19/97
Submit Monthly Progress Report	2/28/97
USEPA Issues Comments on EOC Report	3/5/97 ²
Revise and Resubmit EOC Report (Two Weeks from Receipt of USEPA Comments)	3/19/97
USEPA Approves Revised EOC Report	3/26/97 ²
Submit Monthly Progress Report	3/31/97
Submit Monthly Progress Report	4/30/97
Develop and Submit Risk Management Plan (RMP) (Eight Weeks from USEPA Approval of EOC Report)	5/21/97
Submit Monthly Progress Report	5/31/97
USEPA Issues Comments on RMP	6/11/97 ²
Submit Revised RMP Pursuant to USEPA Comments (Two Weeks from Receipt of USEPA Comments)	6/25/97
Submit Monthly Progress Report	6/30/97
USEPA Approves Revised RMP	7/2/97 ²
Commence Implementation of Approved RMP Alternative(s)	7/3/97

TABLE 1
Schedule of Events
Dutch Boy Site
Chicago, Illinois

Task/Event	Date
Submit Monthly Progress Report	7/31/97
Submit Monthly Progress Report	8/31/97
Submit Monthly Progress Report	9/30/97
Submit Monthly Progress Report	10/31/97
Submit Monthly Progress Report	11/30/97
Complete Implementation of Approved RMP Alternative(s)	12/11/97 ²
Submit Monthly Progress Report	12/30/97
Submit Final Report	2/5/98
Notes: 1) Sampling dates may be delayed in the event of adverse weather conditions (e.g., excessive ice or snow cover, or extremely cold conditions). 2) Projected date	